IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121:

1. (original) An automatic method for segmenting magnetic resonance (MR) images of an anatomical body of interest comprising:

classifying a plurality of selected structures within the body of interest based on a plurality of image processing computations relating respective T2 relaxation times corresponding to each of the structures; and,

segmenting the MR images for each of the structures substantially concurrently based on the plurality of image computations.

2. (original) The method of claim 1 wherein the anatomical body of interest is the brain and the plurality of structures include at least one of air, face tissue, brain tissue, cerebrospinal fluid (CSF), edema and tumor tissue.

3. (original) The method of claim 1 wherein the segmenting step is used in at least one of diagnosis, volume measurement and clinical research.

4. (original) The method of claim 1 wherein the MR images are acquired by a dual echo pulse sequence.

5. (original) The method of claim 4 wherein the dual echo pulse sequence comprises a first echo being a proton weighted density echo and a second echo being a T2 weighted echo.

6. (original) The method of claim 1 wherein the plurality of image processing computations comprises a scatter plot of voxel values of the MR images, at least one radial histogram, and a plurality of image processing filters.

7. (original) The method of claim 6 wherein the image processing filters are adapted to enhance T2 values of the MR images and further relate dual echo image information.

8. (original) An automatic method for segmenting magnetic resonance (MR) images of a brain comprising:

acquiring the MR images by a dual echo pulse sequence to generate a first echo image data set and a second echo image data set;

computing a plurality of image processing computations relating respective T2 relaxation times corresponding to each of a plurality of selected structures within the brain; and,

segmenting the MR images for each of the structures substantially concurrently based on the plurality of image computations.

9. (original) The method of claim 8 wherein the dual echo pulse sequence comprises a first echo being a proton weighted density echo and a second echo being a T2 weighted echo.

10. (original) The method of claim 8 wherein the plurality of image processing computations comprises a scatter plot of voxel values of the MR images, at least one radial histogram, and a plurality of image processing filters.

11. (original) The method of claim 8 wherein the segmenting step is used in at least one of diagnosis, volume measurement and clinical research.

12. (original) A system for automatically segmenting magnetic resonance (MR) images of an anatomical body of interest comprising:

a processor coupled to an MR image acquisition device, the processor being adapted to perform concurrent segmentation computations for a plurality of selected structures within the anatomical body of interest; and,

an interface unit coupled to the processor adapted to present information relating to the segmented computations corresponding to the plurality of selected structures.

13. (original) The system of claim 12 wherein the anatomical body of interest is the brain and the plurality of structures include at least one of air, face tissue, brain tissue, cerebrospinal fluid (CSF), edema and tumor tissue.

14. (original) The system of claim 12 wherein the segmentation computations are used in at least one of diagnosis, volume measurement and clinical research.

15. (original) The system of claim 12 wherein the MR images are acquired by a dual echo pulse sequence.

16. (original) The system of claim 15 wherein the dual echo pulse sequence comprises a first echo being a proton weighted density echo and a second echo being a T2 weighted echo.

17. (original) A method for filtering dual echo images acquired by magnetic resonance (MR) imaging comprising:

selecting a desired echo;

implementing a maximum intensity projection (MIP) on the selected echo;

identifying a spatial location of the implemented MIP wherein the spatial location is then used to extract values from subsequent echoes.

18. (original) The method of claim 17 wherein the dual echo images include a proton density weighted (PDW) image and a T2 weighed (T2W) image.

19. (original) The method of claim 17 wherein the filtering method is used in brain imaging and segmentation of structures within the brain.